Retrospective analysis of Avitrol toxicity in rock pigeons *(Columbia livia)* presenting to a wildlife service

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The pest mediation substance 4-aminopyridine (trade name "Avitrol"), is marketed as a humane and safe frightening agent that causes pain free behavioral changes with little to no mortality. Despite this labelling, the Atlantic Veterinary College's Zoo, Exotics, and Wildlife Service (ZEW) sees an average of 21 rock pigeons (*Columbia livia*) (pigeon) patients annually (7.45% of total patient intakes, n=125/1677) with suspected Avitrol poisoning. A retrospective study on pigeon intakes between 2015-2020 (n=209) was conducted to identify clinical signs and history suggestive of Avitrol poisoning. Cases were defined as Confirmed (positive Avitrol test of crop sample), Probable (clinical signs of toxicosis), and Suspect (history consistent with toxicosis). Using ZEW intake and AVC Pathology data, estimates of Probable (n=50/209) and Suspect (n=75/209) cases and case outcomes were compiled. Of all pigeon intakes, 58.37% (n=122/209) resulted in a fatal outcome (died in care, dead on arrival, or euthanasia). A total of 60.23% of pigeon intakes were classified as Probable or Suspect (n=125/209), of which 56% (n=70/125) resulted in mortality. Samples from 11 pigeons were submitted for Avitrol testing (5.2%, n=11/209, of total pigeon intakes) and 100% were Confirmed. Of pigeon fatalities, 57.38% (n=70/122) were deemed related (Confirmed, Probable, Suspect) to Avitrol. The results of this study suggest that Avitrol associated morbidity and mortality may be higher than claimed by the manufacturer. As there is no antemortem Avitrol test and clinical signs are non-specific, it is suggested that future research include Avitrol testing of all pigeon fatalities as this will improve assessment of Avitrol toxicosis in pigeons.

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